IN THE CLAIMS

B1

1. (Currently amended) A network management system comprising:

an inter-domain configuration manager arranged between a set of one or more network service management applications and a plurality of network element domain managers, each of the domain managers being associated with a particular architectural or technological domain of a multi-layer network, the configuration manager implementing network service design and provisioning functions across a plurality of the domains of the network in conjunction with stored connectivity information characterizing the multi-layer network;

wherein the inter-domain configuration manager further comprises an inter-domain tree manager, the inter-domain tree manager comprising a logical tree manager operative to manage a transport service and facility hierarchy associated with the multi-layer network, and to maintain corresponding parent-child relationships in one or more tree structures that reference the domains containing real-time network details associated with the transport service and facility hierarchy.

2. (Original) The system of claim 1 wherein the inter-domain configuration manager is interfaced to at least one of the set of network service management applications and the plurality of network element domain managers through a published Common Object Request Broker Architecture (CORBA) Application Programming Interface (API).

3. (Original) The system of claim 1 wherein the set of one or more network service management applications comprise one or more of an order manager, a trouble manager, a billing manager, a customer service manager, and a service level reporter.

4. (Original) The system of claim 1 wherein the domains of the multi-layer network comprise one or more of a circuit-switched domain, an Internet Protocol (IP) domain, an Asynchronous Transfer Mode (ATM domain, a Frame Relay (FR) domain, a Synchronous Digital Hierarchy (SDH) domain, a Synchronous Optical Network (SONET) domain, and an optical domain.

5. (Original) The system of claim 1 wherein the inter-domain configuration manager provides single-point access to provisioning functions in a manner which is independent of the corresponding domains.

B1

6. (Original) The system of claim 1 wherein the inter-domain configuration manager provides single-point access to end-to-end views of services and their underlying infrastructure, down to a physical layer of the multi-layer network, in a manner which is independent of the corresponding domains.

7. (Currently amended) The system of claim 1 wherein the inter-domain configuration manager further comprises ~~an inter-domain tree manager and~~ an inter-domain provisioning manager.

8. (Currently amended) The system of claim ~~7~~ 1 wherein the inter-domain tree manager maintains an end-to-end view of planned and provisioned transport services and facilities for the multi-layer network.

9. (Currently amended) The system of claim ~~7~~ 1 wherein the inter-domain tree manager further comprises ~~a logical tree manager,~~ a view manager, and a connectivity database for storing the connectivity information characterizing the multi-layer network.

10. (Currently amended) The system of claim ~~9~~ 1 wherein the logical tree manager manages an end-to-end transport service and facility hierarchy, and maintains corresponding parent-child relationships in one or more tree structures that reference the domains containing real-time network details associated with the end-to-end transport service and facility hierarchy.

11. (Original) The system of claim 9 wherein the view manager provides a plurality of different presentations of the network connectivity information, and provides a particular presentation associated with a tree structure stored by the logical tree manager upon receipt of a request for such a presentation.

12. (Original) The system of claim 7 wherein the inter-domain provisioning manager provides provisioning of services and facilities across the multiple domains.

B1

13. (Original) The system of claim 7 wherein the inter-domain provisioning manager comprises an end-to-end design manager and an implementation manager.

14. (Original) The system of claim 13 wherein the end-to-end design manager provides network service design capabilities across the plurality of domains, utilizing a set of design rules for inter-domain connectivity, and coordinates designs among the domains in the particular inter-domain path.

15. (Original) The system of claim 13 wherein the implementation manager coordinates the implementation of an end-to-end network service design across the plurality of domains.

16. (Original) The system of claim 1 further comprising an inter-domain fault manager associated with the inter-domain configuration manager and arranged between at least a subset of the network service management applications and at least a subset of the plurality of network element domain managers, the inter-domain fault manager providing fault management functions across the plurality of domains of the network.

17. (Original) The system of claim 1 further comprising an inter-domain capacity manager associated with the inter-domain configuration manager and arranged between at least a subset of the network service management applications and at least a subset of the plurality of network element domain managers, the inter-domain capacity manager providing management of transport capacity across the multi-layer network.

18. (Currently amended) A method of implementing a network management system, the method comprising the steps of:

providing an inter-domain configuration manager arranged between a set of one or more network service management applications and a plurality of network element domain managers, each of the domain managers being associated with a particular architectural or technological domain of a multi-layer network; and

B1

utilizing the inter-domain configuration manager to implement network service design and provisioning functions across a plurality of the domains of the network in conjunction with stored connectivity information characterizing the multi-layer network;

wherein the inter-domain configuration manager further comprises an inter-domain tree manager, the inter-domain tree manager comprising a logical tree manager operative to manage a transport service and facility hierarchy associated with the multi-layer network, and to maintain corresponding parent-child relationships in one or more tree structures that reference the domains containing real-time network details associated with the transport service and facility hierarchy.

19. (Currently amended) A machine-readable medium storing one or more software programs for use in implementing a network management system, the one or more software programs when executed providing an inter-domain configuration manager arranged so as to interface with a set of one or more network service management applications and a plurality of network element domain managers, each of the domain managers being associated with a particular architectural or technological domain of a multi-layer network, the inter-domain configuration manager implementing network service design and provisioning functions across a plurality of the domains of the network in conjunction with stored connectivity information characterizing the multi-layer network;

wherein the inter-domain configuration manager further comprises an inter-domain tree manager, the inter-domain tree manager comprising a logical tree manager operative to manage a transport service and facility hierarchy associated with the multi-layer network, and to maintain corresponding parent-child relationships in one or more tree structures that reference the domains containing real-time network details associated with the transport service and facility hierarchy.